



# GUIDELINES FOR SCHOOL INFRASTRUCTURE AND STRENGTHENING (CIVIL WORKS)

December 2014



## **School Infrastructure and Strengthening of Secondary and Higher Secondary Education**

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RMSA programme has provision for infrastructure support to enhance the access and to provide enabling condition for quality education. Infrastructure support can accordingly be classified in to 5 categories:

- Opening of new secondary schools or up gradation of upper primary schools to the secondary stage. This would include class rooms with furniture, library, Integrated Laboratory, Computer room, Head Master room, Art and Craft room, Toilet Blocks, Drinking water etc.
- Strengthening of existing secondary schools through construction of additional classrooms, Laboratories, Library ,computer room, separate toilets for girls and boys, resource room for CWSN, etc
- Girls hostel for EBBs
- Vocational Education related workshops
- Major repair for school building
- Teachers Quarter

### **1.1 Enabling provision for infrastructure support:**

**1.1.1 New Schools/ Upgraded school:** New schools buildings constructed under the programme school should have the following facilities:

- 4 class room for 2 section school / 2 classroom for 1 section school
- 1 Science Laboratory
- Laboratories for vocational education
- Headmaster room
- Office room
- Computer room
- Art/craft/culture room
- Library room
- Separate toilet blocks for boys and girls
- Drinking water facility

Plinth area for 1 section and 2 section school should be 540 sq.mt. and 672 sq.mt. respectively considering the above items of constructions. All the building should have provision for electrification, sanitation and plumbing work etc. Estimate should be inclusive of electrical and sanitary/plumbing works. Provision of lump sum % for these items is to be avoided and is bound to be normalised at national level. The unit cost, where not specifically mentioned in the RMSA norms, would be based on SSOR or CPWD rates whichever is lower.

**1.1.2 Strengthening of existing secondary and higher secondary school:** Civil works under RMSA should start with a proper assessment of the infrastructure requirement for each

district. There need to be a school-wise compilation of physical and monetary requirements. While planning for strengthening of existing schools following points to be considered:

- The gaps with respect to infrastructure in the existing school should be identified based on the UDISE data.
- While adding infrastructure to a school, it should be ensured that all the required infrastructure works are planned in a single go. This will ensure a school once covered has all the required facilities. (Whole school Approach). In this approach all the aspects like ramps, railing, and toilet for CWSN, labs for vocational trades etc. needs to be planned in single year.
- The components that can be undertaken under the programme are listed below with specifications to be followed:

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| <b>Class rooms/Additional classrooms</b> | Class Room- Pupil Ratio: 1:40<br>Minimum ratio :1:25<br>Class Room size: as per State norm, or plinth area of 66 sq. mt.<br>At least two additional class rooms should be built in one secondary Schools<br>At least four additional class rooms, two sections each for classes IX & X should be built in one upgraded upper primary schools<br>Cost of construction will include furniture, fixtures, fittings, circulation area (verandah) etc. |
| <b>Science Laboratory</b>                | One Integrated Science Laboratory- for Physics, Chemistry, Biology & Mathematics.<br>Room size: as per State norm or 66 sq.mt of plinth area.<br>Cost of construction will include furniture, fixtures, fittings, circulation area (verandah) etc.  |
| <b>Lab Equipments</b>                    | Necessary equipments for Physics, Chemistry, Biology and Mathematics' will be needed initially to facilitate academic activities.<br>Provision of Rs. 1 lakh per Laboratory<br>One time grant<br>For schools where Science laboratory has been approved under the programme   |
| <b>Headmaster/ Principal room</b>        | 1 HM room for schools where there is no HM room<br>In case there is one HM for elementary and secondary room, it would be available under SSA- RTE  |
| <b>Office Room</b>                       | 1 office room for schools where there is no office room<br>In case there is one office room for elementary and secondary room, it would be available under SSA- RTE   |
| <b>Girls' Activity Room</b>              | 1 Girls activity room for each Govt school  |
| <b>Computer</b>                          | Room size: as per State norm or plinth area of 66 sq.mt. .  |

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| <b>room/laboratory</b>                       | Cost of construction will include furniture, fixtures, fittings, circulation area (verandah) etc.  |
| <b>Art/ Craft/Culture Laboratory</b>         | Class Room size: as per State norm or plinth area 66 sq.mt.<br>Cost of construction will include furniture/ equipments/ tools, fixtures, fittings, circulation area (verandah) etc.  |
| <b>Library</b>                               | Library will be established and run in a room of adequate size as per the norms fixed by the State Government or plinth area of around 100 sq.mt.<br>Cost of construction will include furniture, Almirah, racks, fixtures, fittings, circulation area (verandah) etc.   |
| <b>Toilets and Drinking water facilities</b> | Requisite number of toilet blocks in each school, separately for Boys, Girls, staffs & teachers and differently abled children<br>Adequate drinking water facilities in every school.<br>Every school to have atleast one toilet which CWSN can access.<br>In case as exiting toilet can be converted to CWSN friendly toilet, funds for conversion may be sought.<br>Proper drainage system in every school   |
| <b>Resource Room at block level for CWSN</b> | Resources room for CWSN may be provided at block level /urban cluster. Efforts should be made to converge with similar efforts made by SSA. In case the Resource room created under SSA can be utilised by secondary and higher students with some additional strengthening, it should be done instead of constructing a separate resource room<br>Equipment for block level resource rooms can be provided @ Rs. 70000 per resource room for equipping the resource room. |
| <b>Ramp and Railing</b>                      | All the rooms in the schools including the lab and Libraries should be accessible to CWSN.<br>Wherever there is a gap, it can be undertaken.   |
| <b>Lab for Vocation Education</b>            | As far as possible integrated lab may be utilised for education of vocational trades.<br>Separate Lab would be approved under vocational education for trades that may need special provisions<br>In case where construction of lab/ workshops has to be undertaken it should be within the premises of the existing secondary/higher secondary school.<br>The size of the workshop as per the norms approved is 10 x10 sqm  |

**1.1.3 Major Repair:-**Civil components of RMSA allow major repairs up to Rs. 4 lakh for 2 section schools and Rs. 2 lakh for 1 section school. The ceiling of 50% or 60% would not include expenditure on major repair. The Major repair grant can be utilised for following:

- Adaptation of existing building environment (indoor and out-door) towards new pedagogy. It is important to systematically identify the nature of adaptations and find the most cost effective method to achieve it.
- Retrofitting the existing buildings towards hazard resistance thermal comfort, better light and ventilation.

- Drinking water and sanitation facilities

**1.1.4 Teachers Quarter:** Residential quarters for teachers in remote/hilly areas/in areas with difficult terrain can be considered. Quarters will be built as residential clusters with accommodation for teachers of all schools within a particular area. The cost will be approved as per SSOR. While accommodating teachers preference for female teachers should be given.

**1.1.5 Girls Hostel:** There is provision to construct one hostel with the capacity of 100 girls in each of the 3500 EBBS. Wherever there is space in KGBV compound, the hostels would preferably be constructed there. While preparing the design for Girls Hostel following needs to be considered:

- The minimum living space available to each inmate should be 40 sq. feet excluding kitchen, toilet and other common space.
- The total plinth area of 100 bedded Girls hostel to be kept 11650 sq.ft. with provision of +/- 5%.
- The unit cost will be on SSOR. Estimate with detail measurement for electrical and plumbing installation should be part of main estimate. Submission on lump sum %basis should be avoided.
- The buildings will be designed as earthquake resilient and will be fitted with basic fire safety equipments.
- Efforts will also be made to design the buildings with provision for solar energy generation, use of solar cooker and biogas

**1.1.6 Minor Repair:** Minor repair grant @ Rs. 25000 per school per annum may be considered under special circumstances. Following repairing works can be undertaken under the head:

- School building
- Toilets
- Tanks
- Play Ground
- Campus
- Conservancy Services
- Electrical fittings
- Sanitary & Other fittings
- Furniture and fixtures etc.

Expenditure on repair & maintenance of building would not be included for calculating the 50% limit for civil works. Grants will be available only for those schools which have existing buildings of their own. The fund available in a year cannot be carried forward to next year. Neither can grants of two years or more can be accumulated to utilise in consequent year.

## **1.2 Key Features for construction work under the programme**

- The allocation for civil works will not exceed 50% of the approved Perspective Plan. However, in a particular year's Annual Plan, provision for civil works can be

considered up to 60% of the Annual Plan expenditure depending upon the priorities assigned to various components of the scheme in that year within the overall project ceiling of 50%.

- The unit cost, where not specifically mentioned in the RMSA norms, would be based on SSOR duly notified by state Government or CPWD whichever is lower.
- Incorporation of child-friendly internal and external elements will be mandatory in all the new construction and repair works. All schools will be fitted with rain water harvesting system and disabled friendly provisions. RMSA will encourage use of local construction materials and low cost technologies.
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- Use of local construction materials and low cost technologies to be given preference.
- Maximizing pedagogic potential of indoor and outdoor school spaces. “Bala” concept can be referred to.
- School building to incorporate safety features for resistance against hazards
- The new structures will be constructed as earthquake resistant and will have facilities for water harvesting.
- Provisions for renewable energy utilisation may be explored in the school buildings strengthened/ upgraded under RMSA. Solar panels for water heating, running water pump, solar lantern etc. are suggested as some of the possible activities.

Report on Environmental assessment can also be referred to at [http://rmsaindia.org/images/Environment\\_Management\\_Framework.pdf](http://rmsaindia.org/images/Environment_Management_Framework.pdf)

**1.3 School buildings to adhere to specified construction standards:** The national building code of India 2005, developed by the Bureau of Indian standard (BIS) provides guidelines for regulating building construction activities across the country. The code should serve as reference for all States and UTs, for design and construction of school infrastructure. This requirement does not preclude the use of local constructions design, materials and practices. Details are available on RMSA website [http://rmsaindia.org/images/Extract\\_of\\_National\\_Building\\_Code\\_of\\_India.pdf](http://rmsaindia.org/images/Extract_of_National_Building_Code_of_India.pdf)

#### **1.4 Technical support for implementation**

- Creating/accessing technical capacity for large scale school infrastructure create and for quality assurance.
- Quality assurance:-In order to assure quality of civil works, on independent assessment of the technical quality of civil works through third party evaluation (TPE) is mandatory. The TPE is to highlight good practices, bring out strength and weaknesses and share with district/state level engineers. In addition inbuilt quality control test for building materials are undertaken by in-house engineering cell or agency supervision/facilitating technical support.

**1.5 Construction practices while executing the works can be referred to at RMSA website at <http://rmsaindia.org/images/Construction Practices and Quality Control Tests.pdf>**

**1.6 Capacity building of SMDC for undertaking building construction:-**RMSA will encourage use of local construction materials and low cost and environment friendly technologies without compromising on the structural soundness and safety of the building. The SMDC will need to be trained in certain specific technical aspect such as collaborating in the development of drawings understanding cost estimates, assessing building material quality, keeping accounts, material procurement etc. maintaining transparency about funds received and used through social audits, display boards etc. the training can be imparted in a simple and effective manner in the local language, through technical/ other experts who are themselves trained to communicate effectively and demystify these issues.

- The School Management and Development Committee headed by the Principal would be empowered to conduct any civil works including repairing & maintenance for improvement of schooling facilities after following procedures as per rules. The scheme, however also recognizes that all try to mobilize resources under Rural Employment Programme and other developmental schemes for constructing school buildings must be undertaken first before engaging any other modes getting civil work done.
- School Management and Development Committees will have to carry out the civil works activities through a transparent system of account keeping.
- The School Management and Development Committee could certify the maintenance and repair work undertaken in a school. For repair and maintenance as well as new construction, technical provisions will be followed. The Communities' right to know the cost parameters has to be fully respected.
- Efforts to improve the school environment by addition of a few inexpensive internal and external elements will be made. Use of local materials and cost effective technologies will be encouraged. Repair and maintenance of buildings will be given priority. The States may make use of designs already developed in their specific local contexts or the designs adopted by the Kendriya Vidyalaya Sangathan.

**1.7 Checklist of document required to be prepared / submitted for civil works proposal:** While submitting proposal for civil works components, State need to ensure that requisite details and document are part of the Annual Work Plan and budget. The checklist is available on RMSA website at <http://rmsaindia.org/images/Checklist for Civil Work Proposal.pdf>

**1.8 Suggested Civil engineering tips at construction site of school buildings to be followed by SMDC are available at <http://rmsaindia.org/images/Tips for SDMC for construction works.pdf>**